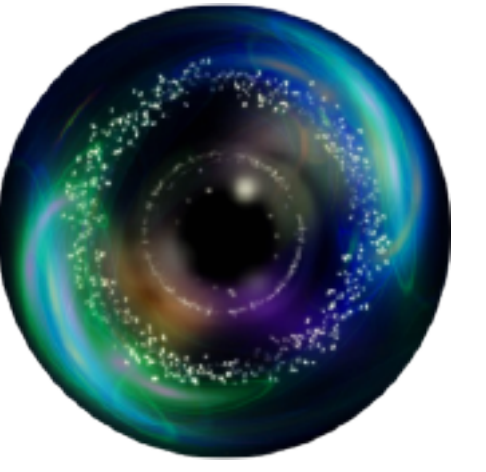




Emotional judgements of individual scenes are influenced by unintentional averaging



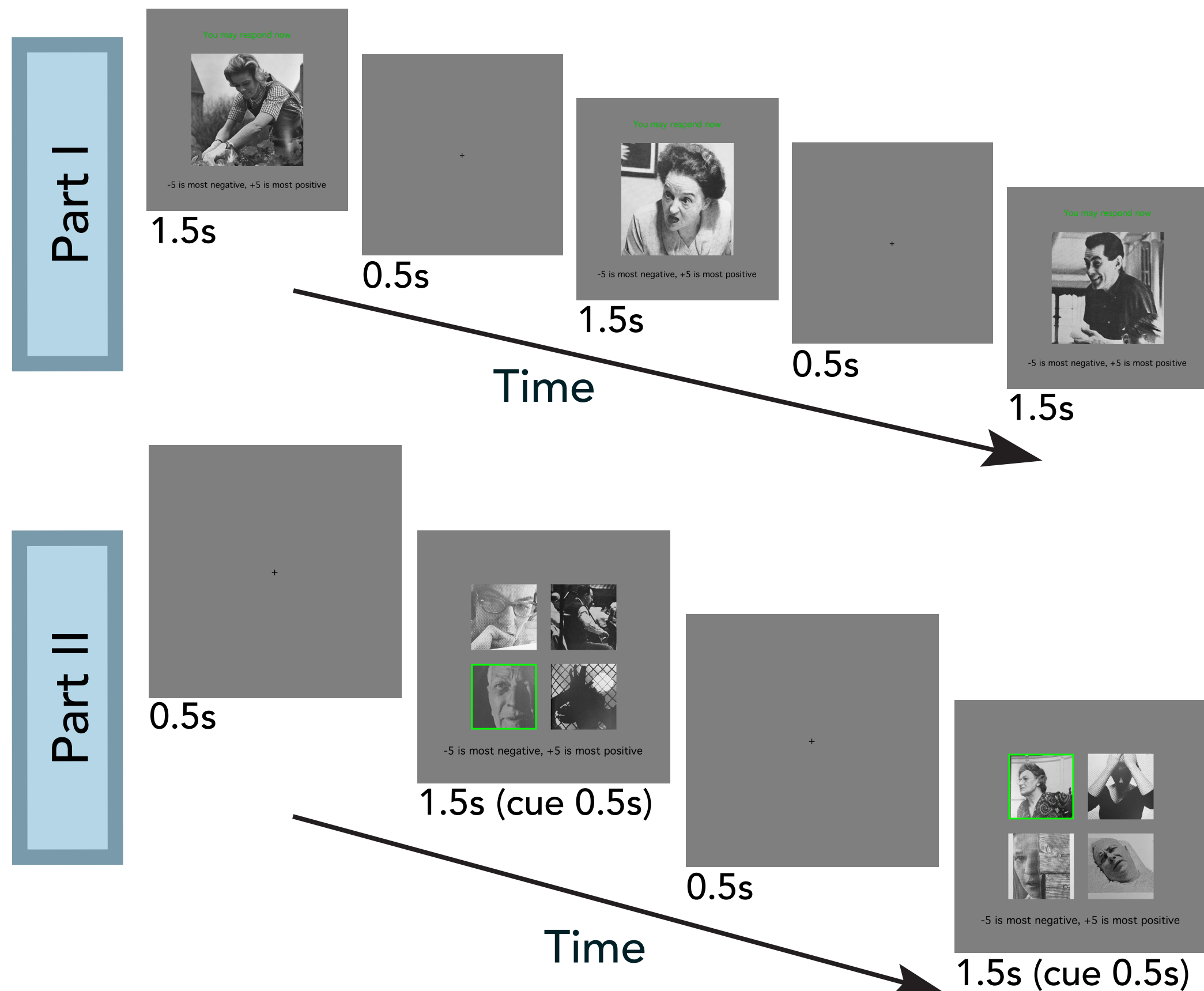
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Introduction: The visual system uses ensemble perception to summarize visual input across a variety of domains. The average size of a set can influence perceived size of an individual item (Brady & Alvarez, 2011), but it has yet to be determined whether such effects emerge for high-level stimuli.

Question: Does the surrounding, unattended ensemble influence the perceived emotional valence of the target?

Methods

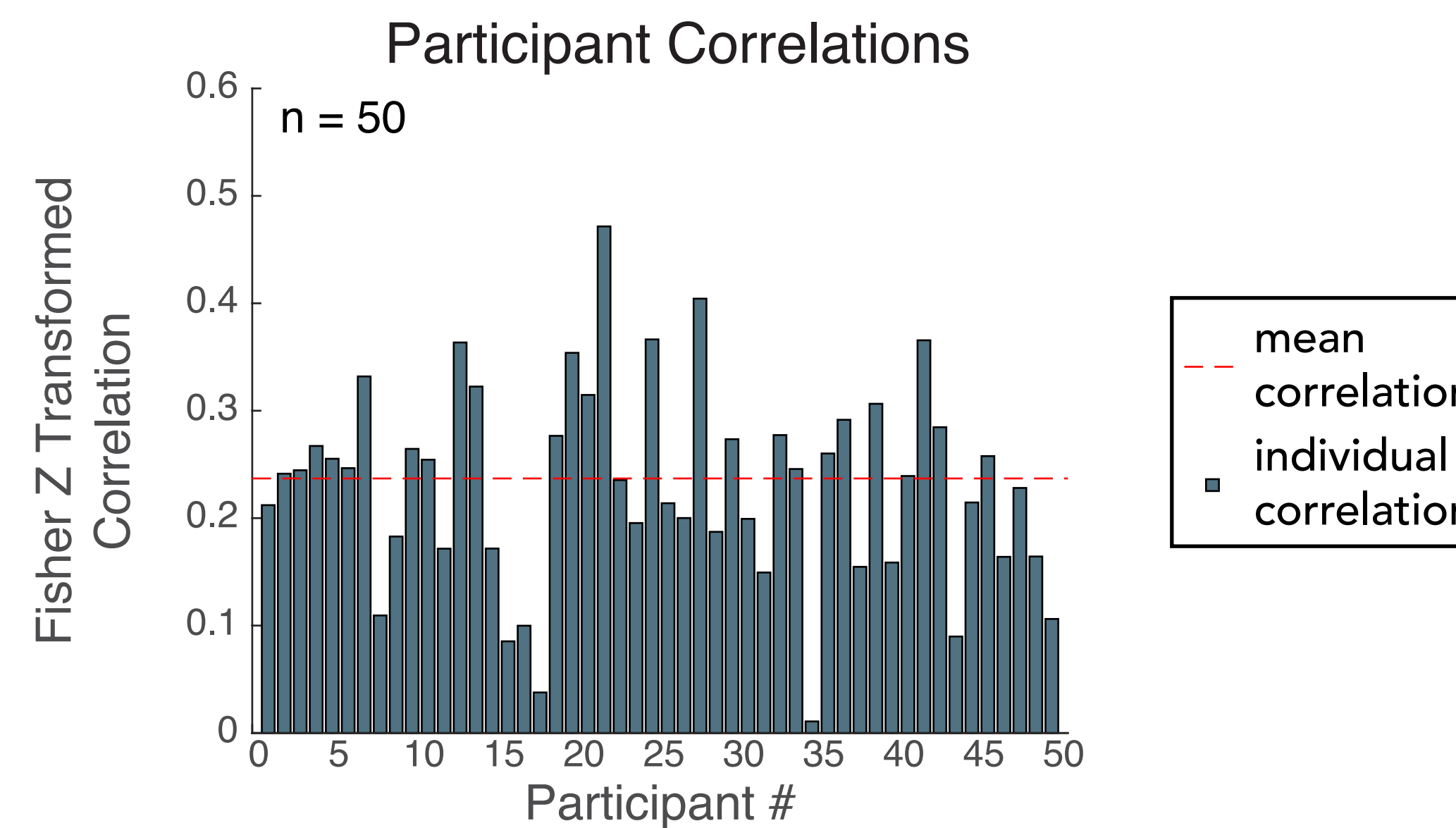
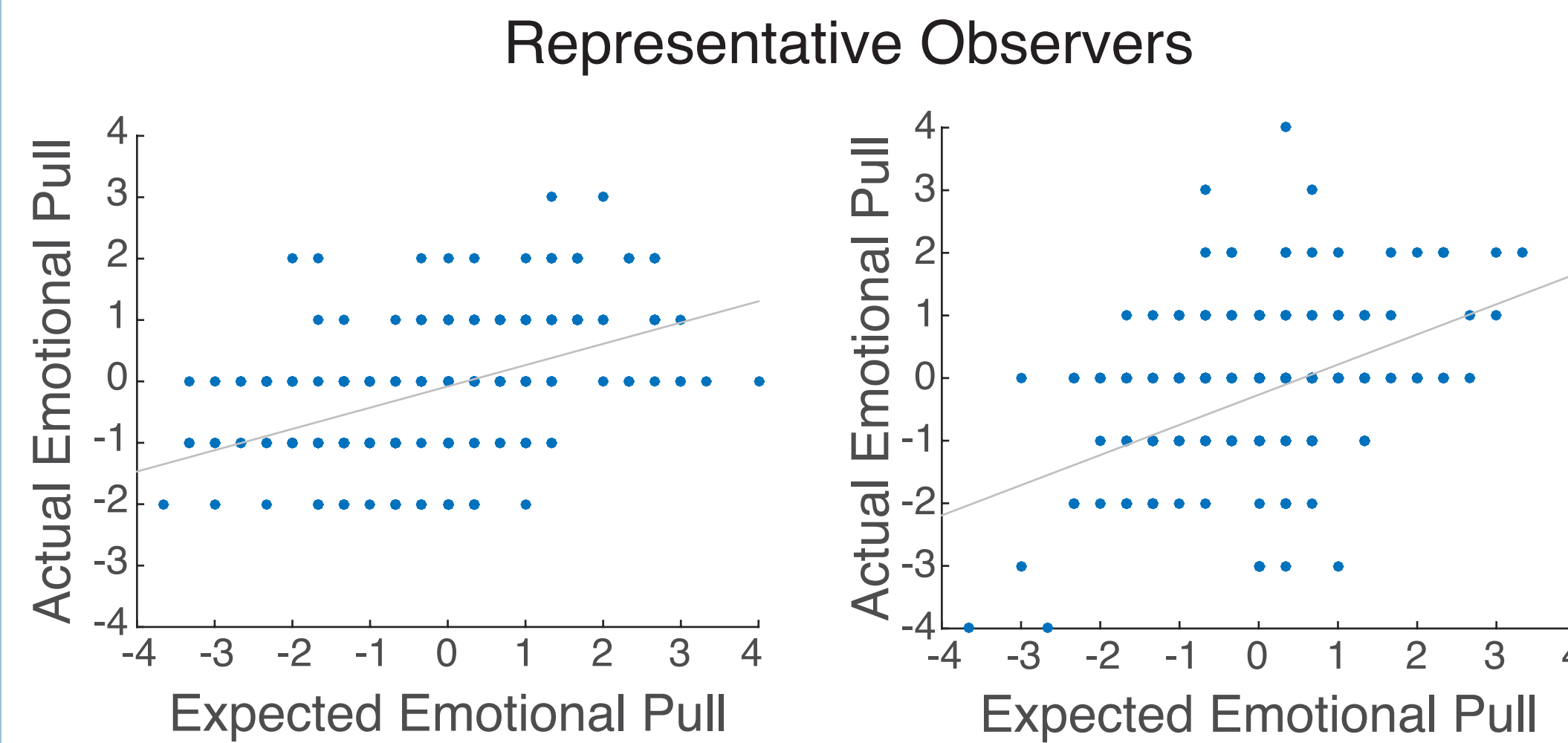
Participants first rated the emotional valence of each image (Part I). The images were then grouped into sets of four and participants were asked to rate the emotion of the cued image (Part II).



References:
Brady, T. F., & Alvarez, G. A. (2011). Hierarchical encoding in visual working memory: ensemble statistics bias memory for individual items. *Psychol. Sci.* 22(3), 384-92.

Experiment 1

Results: The ratings of the individual images were universally pulled in the direction of the emotion of the ensemble.

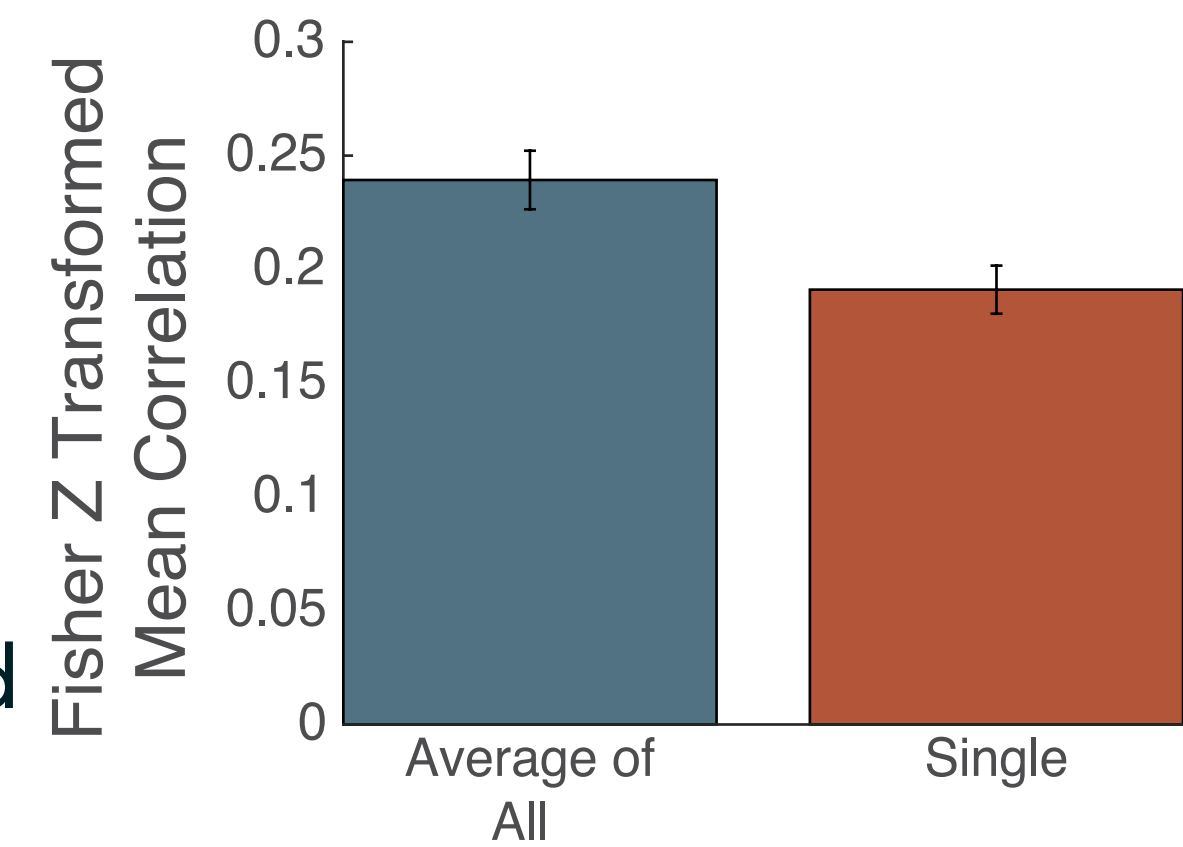


Conclusion

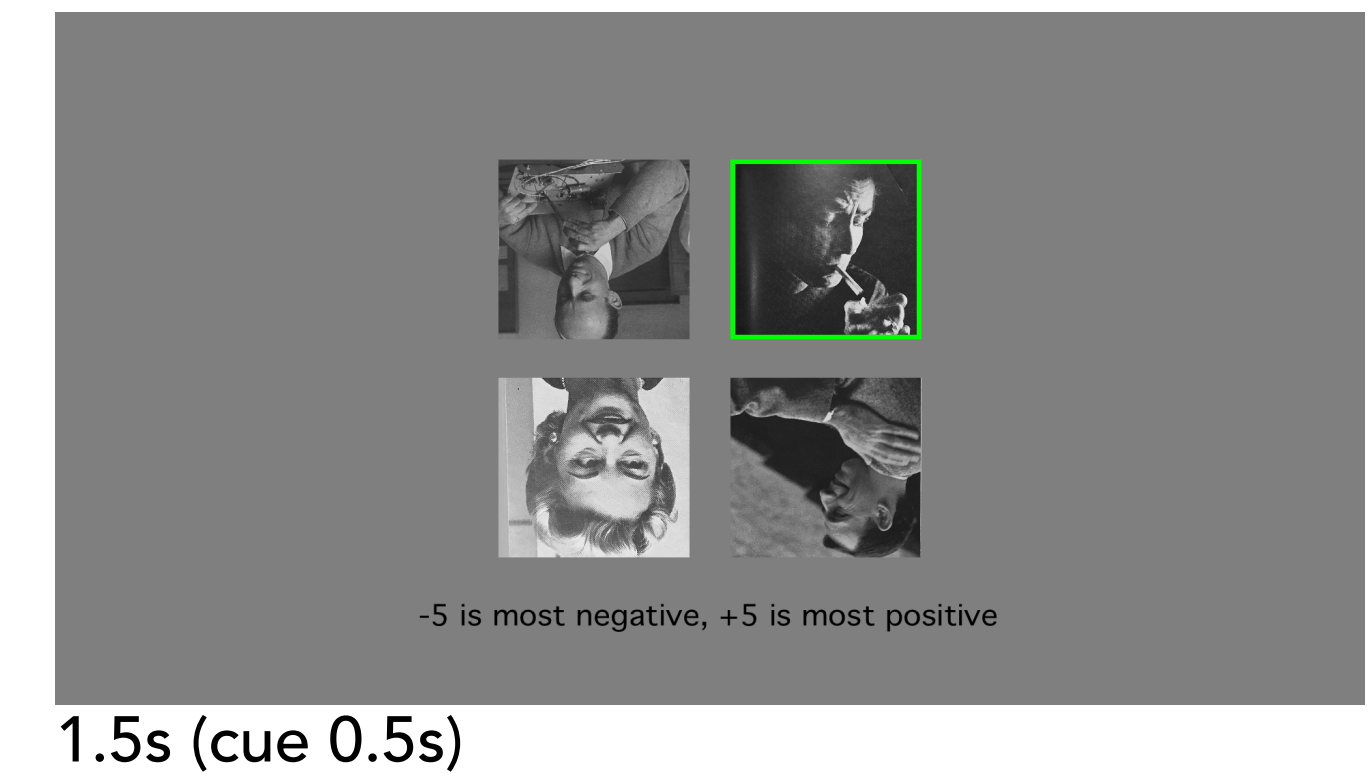
Observers are unable to wholly filter irrelevant, high-level ensemble information. Uncued information influences the rating of the target image even though observers were instructed to ignore it.

Ratings are influenced by the ensemble, not just a single other image:

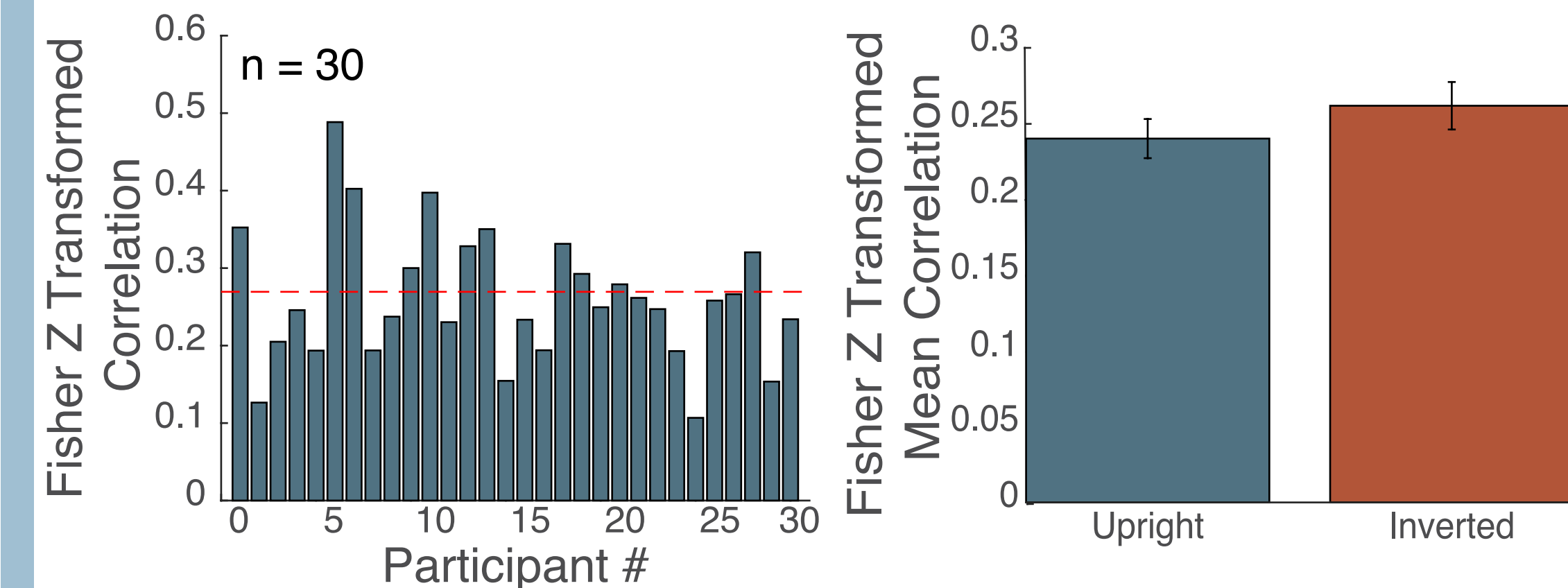
The correlation between expected and actual emotional pull was significantly less when observing the emotional pull of one randomly sampled ensemble image.



Experiment 2: Inverted Ensemble Images



Results:



Conclusion

The perceived emotion of an individual stimulus is influenced by the surrounding context, even when it is inverted.